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ABSTRACT

Because of dramatic changes in the technology of communication systems in business, industry, government, and the professions, college graduates are no longer writing the way they were taught to write. Instead of being physically engaged in a recursive pen-in-hand process, they are dictating their communications for word processing systems. A review of the literature on word processors and structured interviews with 28 users and managers of word processing systems demonstrate that writers now compose their communications by modifying all phases of the composing process to meet the requirements of the new systems. Such research on how writers compose on the new systems suggests that teachers can help business writing students adapt their writing to the new technology by (1) preparing students to anticipate the options new systems provide; (2) preparing students to conduct two concurrent monologues, one for the intended reader and one for the word processor or transcriptionist; (3) introducing a wide range of planning strategies, from generative heuristics to stereotypic patterning; (4) helping students internalize the conventions of written texts; (5) incorporating oral delivery in class instruction; (6) using highly adaptable review/revision procedures; and (7) emphasizing collaboration in all stages of the composing process. (HTH)

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EFFECTS OF DICTATION/WORD PROCESSING SYSTEMS ON TEACHING WRITING*

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Abstract. Because of dramatic changes in communication systems in business, industry, government, and the professions, college graduates are not writing as they are being taught to write. Instead of being physically engaged in a recursive pen-in-hand process, they are dictating their communications for word processing systems. Secondary research and structured interviews with 28 users and managers of word processing systems demonstrate that writers now compose their communications by modifying all phases of the composing process of writing to meet the requirements of the new systems. Research on how writers compose on the new systems suggests that teachers can help business writing students adapt their writing to the new technology in the ways outlined in this article.

INTRODUCTION

At this very moment, a technological revolution is occurring which will dramatically change the way our students write--and the way we teach. The main headquarters of this revolution is an enclave known to readers of Time and Newsweek as Silicon Valley, a high technology area in California which includes the main offices of the Apple Corporation, Hewlitt-Packard, Intel, and Hwang. Subsidiary plants, branch offices, and distributors of these and other high

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technology companies are located throughout the United States and, indeed, throughout the world.

Like many revolutions, this one began quietly. Although we read in the late sixties about computers and electronic media--in books by Marshall McLuhan (1965 and 1967) and, in our own profession, in publications by Edmund Farrell (1967) and Edward P. J. Corbett (1967:166-72)--we more or less overlooked these advance warnings. By 1980, however, the revolution was firmly entrenched; dictation/word processing systems had infiltrated every type of organization in the country. In the professions, doctors were dictating records of office visits; lawyers were dictating adaptations of computer-stored contracts and wills; and even college professors were dictating scholarly articles and books. In government, federal, state, and city agencies were producing many of their letters, memos, and reports on dictation/word processing systems. And in business and industry, the communications media were entirely transforming the production of written messages.

It was, in fact, in one large corporation that I first encountered the revolution. At a workshop I was giving at a large corporation in New York in 1980, I noticed memos and letters with the most peculiar sentence structures and organizational patterns I had ever seen. I soon learned that these communications had been dictated on the company's new centralized dictation/word processing system. When I asked what kind of training the users of this system had received, an executive said: "Oh, everybody here knows how to use telephones and tape recorders!"

Thus began my adventure with the new technology. Now, after almost two years of research, I am prepared to tell you that it takes more than "using tele-

phones and tape recorders" to produce clear writing on the new systems. And I am also prepared to tell you that teachers of composition, and especially teachers of business writing, have an enormous responsibility to teach students to use the new systems effectively (Halpern 1981a:194-206).

In the following pages, I will explain the problem which confronts our profession. Next, I will describe the effects the new communication systems have on the process of composing. Finally, I will address the challenges that the new technology holds for our profession.

PROBLEM

Although there has been an incredible revolution in communications over the past decade, most writers have not been adequately prepared for it. Survey after survey shows large and small organizations installing dictation/word processing systems (WPS 1980:22). The same surveys, however, show that potential users are not making effective use of these systems.

What explains this enormous gap between the potential usefulness of the new systems and the performance of those who use them? My research suggests that the gap is educational. Although on-the-job writers may master the technical process--of using code numbers, spelling difficult words, and not eating apples while they dictate--they are <u>never</u> taught, either on the job or in our classes, to adapt their composing process to systems which require that they speak writing. As teachers, we will have to know more about the systems our students will use and prepare our students to use these systems effectively.

EFFECTS OF THE NEW SYSTEMS ON COMPOSING

After my experience at the workshop in New York, I began to read about the revolution I had inadvertantly discovered. I didn't find much, specifically,

about composing on dictation systems. Barrie Van Dyke (1980), in her 4 C's talk on the writing of high-level bank executives, had shown how and when the writers in her descriptive study dictated their communications. And John Gould (1980:97-127) at the IBM research center had conducted numerous laboratory experiments which compared writing and dictating. Because of the scarcity of materials on the subject, I decided to investigate the revolution first-hand by designing a research project which would answer these three questions:

* What kinds of materials do on-the-job writers compose on the new dictation/word processing systems?
* What characterizes the composing process of those who use the new systems?
* What should business writing teachers know about this process to prepare their students to use the new systems effectively?

To find the answers to these questions, I interviewed 28 users and managers of the new systems between June and December, 1980, conducting structured interviews, having my interviewees fill out questionnaires, and collecting and analyzing their notes, tapes, drafts, and final communications (Halpern 1981b: 1-31). What did I find?

First, I learned that successful users of the new systems produce four kinds of communications:

* First-time-final letters, memos, and reports;
* Drafts;
* Adapted form communications; and
* Records of various kinds.

The most frequent uses of the new systems were composing first-time-final and draft communications.

To answer my second question--"What characterizes the composing process of writers who use the new systems?"--I analyzed the materials I had collected. I found that the composing process of dictation, like that of writing, includes three recursive stages: planning, dictating, and revising/editing/correcting. But I also found that the substages of this process differ considerably in first-time-final and draft communications, and that many writers have difficulties which stem from differences between the recursive writing process and the requirements of speaking writing.

Perhaps the best way to illustrate the composing process of dictation is to present a case study of one successful user of the new systems. In June, 1980, I interviewed Bernard Galler (Galler 1980), editor of The Annals of the History of Computing. Galler explained that he had come to his office at the University of Michigan Computing Center one evening to dictate several first-time-final letters. He had planned each letter from the files before him, jotted down a few notes, dictated, and "made sure the tape of that letter had no errors before moving on to the next one." The following morning, the letters were on his desk. He checked, signed, and gave them to his secretary for mailing.

When Galler filled in his structured interview form and discussed his composing process with me, he described the stages he typically went through, which included planning, dictating, and correcting. During the planning stage, Galler said that he would:

* Consider audience, purpose, structure, and what the secretary needed in directions and documentation;
* Assemble all relevant materials and files; and
* Think through the subject carefully, making notes as necessary.

During the dictating phase, Galler said that he would:

* Dictate at his desk recorder, making very clear distinctions between the text of the letter and the directions for the secretary;
* Replay the dictation tape "to face up to what it's like to listen to;" and
* Revise the tape by backing up over errors and dictating again.

He would then deliver the materials to his secretary for word processing. During the correcting stage, Galler would:

* Review the letters for errors and indicate corrections on a separate note; he said, "I occasionally let a minor awkward word or repetition go through, which differs from my typical habit in writing."
* Instruct the secretary to correct and send the letters.

Although Galler was unusually perceptive about the process he went through, he was not aware of certain features of this process: for example, that he averaged one pause or stop every seven words, not including directions to the typist, and that he planned frequently as he dictated. The process of first-time-final dictation appears to contain all of the elements Galler listed plus frequent pausing to plan sentences, phrases, and words. It also tends to be recursive in nature, with the speaker reviewing and even revising the tape before moving ahead.

Lest you think this process is limited to the Galler example, let me assure you that the process was very similar in the five other first-time-final tapes I analyzed and that it was quite similar to the process involved in dictating adaptations of computer-stored forms and in dictating records.

Dictated drafting, on the other hand, is characterized by more exploration, more ad hoc planning, and more collaboration during draft revision. Further-

more, although all of my interviewees who drafted their communications claimed that drafting improved their fluency, the drafted tapes that I collected had more pauses--to plan sentences, phrases, and words--than the first-time-final messages. While dictators generally pause very frequently--apparently to plumb their memory for the syntactic and mechanical patterns of written prose--those who draft pause most frequently--apparently to keep their detailed plans in mind while choosing phrases and words appropriate to writing.

The obvious question is, so what? What does this elaborate analysis of on-the-job dictation have to do with teaching business writing to college students?

As I have tried to show above, it has everything to do with teaching writing. Oral composing is what our students will be doing when they leave our classes. And few of them will be able to compose successful communications on the new dictation systems without adequate instruction. Since our responsibility is to prepare students to write well during--and especially after--college, we will have to inform ourselves about how our students will compose in the future and help them understand the differences between pen-in-hand composing and dictating for word processing.

CHALLENGES FOR TEACHERS

This brief review of my research has suggested seven features which distinquish pen-in-hand writing from dictated writing, features which, I believe, teachers should address in their classes (Halpern and Liggett 1983:Ch. 3). These features include:

* Making functional choices: Teachers should prepare students to anticipate the options the new systems provide--for composing first-time-final communications, drafts, new versions of computer-stored forms,

and records, so that students can make appropriate composing choices for the option they choose.

* Adapting for dual audiences: Teachers should prepare students to conduct two concurrent monologues, one for the intended reader, and one for the transcriptionist who types the word-processed text. If one or the other is inadequate, a dictated message will fail.

* Using highly-adaptable planning strategies: Teachers should introduce a wide range of planning strategies--from generative heuristics which allow students to explore and plan drafts of complex communications to stereotypic patterning procedures which are more appropriate to adaptations of stored forms.

* Relying in special ways on memory: Teachers should help students internalize the conventions of written texts--including format, syntactic patterns appropriate to writing, and mechanical conventions. Because those who dictate must consistently translate spoken words into written form, students will have to remember how printed texts look and how written sentences differ from spoken sentences.

* Incorporating oral delivery skills: Teachers should provide consistent in-class opportunities for students to use notes to present information orally to other class members (Payne, 1981:184-197) or to record, revise, transcribe, and edit dictated communications.

* Using highly adaptable review/revision procedures: Teachers should encourage students to revise in many ways. If tape recorders are available, students can practice auditory revision on tape. When revising on paper, students should be encouraged to improve the style of their sentences. (My research has shown that, because of the heavy emphasis on planning, revision in dictation is less a matter of

discovery or reformulation than of improvement of content. Since those who dictate routinely attend to factual content, they must be taught to focus on the style of written sentences when they revise their dictated tapes or printed drafts.)

* Collaborating with people and equipment: Teachers should emphasize collaboration in all stages of the composing process and, when possible, give students opportunities to use electronic composing media.

Suggestions of this kind are likely to provoke several questions from writing teachers: How can I possibly do these things in my business writing classes--which are now overflowing with essential assignments? Why bother? Isn't teaching about the new communication systems really the responsibility of on-the-job training programs?

I would like to close by addressing these obvious and important questions. First, introducing information about the new systems and strategies for using them need not take much extra class time. In freshman of sophomore classes, it can be as easy as assigning one paper or collaborative oral presentation on the new communications technology. And it can be as simple as having students revise transcripts of spoken interviews to conform with the conventions of written prose, then having them discuss the changes they have made.

In advanced classes, including business, technical, or professional writing, teaching about the new systems can be as easy as introducing a two-week unit on composing with dictation equipment--as we did with amazingly good results in the Business Writing Program at Purdue University last year (Liggett 1981:207-219). The teacher who wants to prepare students for technological change can find many efficient ways to do it within the context of current writing classes.

The big question is, of course, why bother? I have tried earlier in this article to convey a sense of the pervasive communications revolution that surrounds our profession. It is clear that our students need highly transferable cognitive strategies and writing skills to confront this revolution. While it may be easier to say, "Let Ma Bell do it, or let General Motors do it, or let IBM do it," my own consulting experience suggests that these organizations know virtually nothing about the professional gains we have made over the past decade--in understanding composing, in teaching rhetorical strategies, and in defining different styles of business writing.

We are the only ones who can help students compose well-written documents, no matter which system they use in the future. Our students need versatile strategies they can use--in a hand-written love letter or in a dictated feasibility report. And we are the only people who can teach these strategies effectively.

CONCLUSION

I would like to end with this quotation from Walter Ong, describing a change which occurred over 2000 years ago--because of a technologial revolution comparable to the one that is occuring right now. Ong describes the change in classical rhetoric when writing transformed a previously oral culture (Ong 1977:87):

> Now, when you spoke. . . you were obliged to sound a little bit like writing quite regularly or perhaps even always . . . . You were expected to let your speech be colored by the way writing was or could be done . . . . After writing, oral speech was never the same.

I contend that as a result of the new communications technology, neither speaking nor writing will ever by quite the same. We live in a period of technological change as revolutionary as the period Ong described. We ought to prepare ourselves--and our students--to meet the challenge.

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